

II. REMARKS/ARGUMENTS

These Remarks respond to the Advisory Action mailed July 19, 2005.

Claims 1-15 were pending in the Application prior to the Advisory Action. The Advisory Action rejected claims 1-15. The present amendment and remarks address the Examiner's rejections.

Claims 1, 3, 5, 10, 11, 13, and 15 were rejected under 35 U.S.C. §102(e) as being anticipated by Yeo, U.S. Patent No. 6,711,741 ("Yeo"). Claims 2, 4, 6-9, 12, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yeo in view of Ceccarelli, U.S. Patent No. 6,222,532 ("Ceccarelli"). Applicant maintains that neither Yeo nor Ceccarelli, either singly or in combination, disclose all of the limitations of independent claims 1, 10, and 15 as now amended.

A. Anticipation Under Section 102(e)

The present invention comprises a client-side indexing and navigation system. Applicant and the Examiner dispute whether Applicant's claims are anticipated by Yeo. In particular, Applicant asserts that the claims teach indexing by a client-side device, while the Examiner maintains that Yeo teaches and therefore anticipates indexing on the client side. Applicant respectfully disagrees in light of the claims as amended and further remarks addressing the disclosure in Yeo highlighted by the Examiner in the Advisory Action.

The Examiner has taken the position that Yeo discloses that the "index is generated by the client control sub-system 308." However, the Examiner concedes that the client control sub-system disclosed in Yeo does not generate the image that corresponds and links to a specific time segment of the video. "*The image representing the location of the index is not generated by the client control sub-system 308, instead, that image is sent over connection 322 [i.e., from the server] . . .*". Advisory Action at 3 (emphasis added; apparent reference to Yeo, Fig. 3, and Col. 3, lines 48-50). The claims as amended now are explicit that the images in the look-x data stream are generated on the client side, and *not* on the server side, as in Yeo. Claim 1 as amended, for example, now reads (in clean version):

Claim 1. (Currently amended) A method for providing client-side indexing and navigation of video data, comprising the steps of:

opening a main connection for a client-side device to receive transmissions of a data flow, wherein said data flow is not indexed;

opening a second connection for the client-side device to receive at least one look-x data stream comprising a plurality of data from said data flow, wherein said plurality of data is not indexed;

indexing with the client-side device at least one point of the look-x data stream to at least one corresponding point in said data flow, wherein said indexing step with the client-side device further comprises selecting at least one look-x point for display to represent the at least one corresponding point in said data flow at a particular timeframe in the data flow; and

providing control of a playback position of said data flow based on the indexed points in the look-x data stream.

Independent claims 10 and 15 have similar amendments to distinguish them over the cited art.

Support for the amendments to the claims is found in the specification of the present application, by way of example, page 5, line 30- page 6, line 2: "The present invention creates an index on-the-fly *on the client side*." (emphasis added). See also page 8, lines 16-25 and Fig. 3:

To perform video indexing at points after the current playback position of the video stream [], the [client-side] device [] opens a second connection [] for transmission of look-ahead data of the video stream []. [Client-side] Device [] receives the look ahead data [], which is summarized, and *keyframes are selected and utilized by the [client-side] device []* for making a display according to the present invention, having index video at points forward and behind . . .

(emphasis added).

As further support that Yeo does not anticipate the present invention, note also that the term "keyframe" in the present application apparently corresponds in substantial part to the term, "temporal snapshot," disclosed in Yeo, yet as the Examiner apparently recognized, the keyframe term of the present invention is a client-side term, while "temporal snapshot" refers to a server side term. Yeo's "temporal snapshots" are defined as "mark[ing] the beginning of a shot," and a "shot" is

defined as "a segment of video source frames." Yeo at Col. 3, lines 25-35. "Temporal snapshots" have unique time stamps associated with them at the server side. Yeo at Col. 3, lines 29-31. By comparison, the present invention defines "keyframe" as "selected frames . . . to utilize as a snap image for referencing positions in the video," while "snap image" is referred to as "represent[ing] images at respective timeframes in the video being played back." Application at 10, lines 3-6; lines 20-23. As noted, keyframes and snap images disclosed in the present invention are generated by a device on the client side, unlike the temporal shots disclosed in Yeo, which are generated on the server side. See Yeo, Col. 3, lines 18-50.

Because the Examiner has conceded that Yeo discloses generating images "representing the location of the index" on the server side, and the claims of the present application as amended teach generating comparable images on the client side, Yeo does not teach each limitation of the claimed invention. As such, Yeo does not anticipate the present invention, and reconsideration of the rejection based on Yeo respectfully is requested.

Notwithstanding the above remarks, which together with the claims as amended are sufficient to render the claims patentable over the cited art, Applicant respectfully continues to disagree with the Examiner's argument that Yeo discloses that "the actual index, or pointer into the video is generated by the client control sub-system." The Examiner cites to Col. 4, lines 4-9 in support of his argument, and further argues that the "second connection is used for sending temporal snapshots, NOT the indexes. The client control sub-system 308 links the temporal snapshots to the video (connection 324) by creating pointers (indexes) to particular video source frames." Based on the foregoing, the Examiner concludes that indexing is carried out on the client side. Advisory Action at 3.

Applicant respectfully sets forth reasoning and cites to the Yeo reference to point out the flaw in the foregoing statements. First, Applicant respectfully submits that Applicant's disclosure of indexing does not coincide completely with the Examiner's understanding of that term. The Examiner's understanding apparently is that indexing does not occur until a user selects an index entry, and therefore indexing occurs on the client side. In contrast, Applicant's understanding is that indexing happens once the index entry is created. In other words, in Applicant's view, there is an index whether or not a user ever uses it. Applicant respectfully submits that Applicant's position is the more reasonable, using a book as an analogy. A book index is created when a page is associated

with the appearance of a word. Even if the reader (*i.e.*, the user) never refers to the index, the index is available. Likewise, once a time stamp or similar device is associated with a temporal snapshot or keyframes or snaps, the index is created. In the present invention, the keyframes and snap images are created on the client side, and on-the-fly. Using the foregoing definition of an index, the data transmitted to the client-side device are not indexed. The claims as amended now are explicit on this point.

In contrast, as disclosed in Yeo, the data are indexed on the server side by creation of time-stamped temporal shots. As Yeo discloses, the image generated by the server already must have a time stamp into the video associated with it *before* it is transmitted from the server. Without such time stamp associated with the image, the client control sub-system would be unable to know where in the video the player should go when a user selects the image. The disclosure in Yeo explicitly supports this, by teaching that the temporal shots generated in the server are time-stamped:

TSG [*i.e.*, temporal snapshot generator, on the server side] 300 receives video source frames 106 as its input. . . . TSG 300 generates shots, such as shots 402 and 404, and their corresponding temporal snapshots, . . . 406 and 408 from consecutive video frames 400. . . . A temporal snapshot . . . makes the beginning of a shot. *One method of tracking these video frames and temporal snapshots is placing unique time stamps on them.* For instance, *temporal snapshot 406 is a video frame at time=0.* ¶ After having generated temporal snapshots 406 and 408, TSG 300 sends them along with video source frames 106 to server database 302 through data path 314. (emphasis added).

Thus the Yeo reference explicitly teaches that indexing, *i.e.*, associating a temporal snapshot with a time reference, is done on the server side, not on the client side, as in the present invention, and it is clear that Yeo's temporal shots are pre-computed on the server side, before ever arriving at the client side, in contrast to the present invention.

Accordingly, even if Applicant and the Examiner cannot agree on their respective understandings of the term "indexing," it is clear that Yeo cannot anticipate the present invention because Yeo teaches time-stamping on the server side while the present invention teaches association of an image with a corresponding point in a video at the client side. The claims as amended are explicit on this point, and reconsideration of the rejection is requested.

Finally, it merits notice that the cited text in Yeo neither discloses nor teaches anything to suggest that the client control subsystem links the temporal snapshots to the video by creating pointers to particular video source frames. Yeo Col. 4, lines 4-9. As set forth above, Yeo teaches that the server side links the temporal snapshots with a time reference and thus links the temporal snapshots to the video. The cited text merely discloses the pathways by which the display application communicates with the client control sub-system and ultimately with the server.

B. Obviousness Rejection Pursuant to 35 U.S.C. Section 103(a)

According to the Advisory Action, the claims also stand rejected as obvious over Yeo in view of U.S. Patent No. 6,222,532 to Ceccarelli ("Ceccarelli"). Advisory Action at 1. The Examiner's reasoning is not repeated in the Advisory Action, and accordingly, Applicant refers back to the Final Office Action mailed April 11, 2005 to address the Examiner's rejection in light of the foregoing remarks and the claims as amended.

According to the Final Office Action, the Examiner rejected claims 2, 4, 6, 7-9, 12, and 14 as obvious over the cited art.

Claims 2, 4, 6, and 7-9 depend directly or indirectly from independent claim 1. Claim 1 has been amended to include the limitations that a client-side device receives un-indexed data flows, and the client-side device then indexes look-x data points to the main data flow. As established above, Yeo does not disclose this limitation. Ceccarelli does not disclose this limitation; moreover, the Examiner never cites Ceccarelli as teaching it. Yeo and Ceccarelli thus fail to disclose all of the limitations of independent claim 1, and claim 1 is allowable as non-obvious over the cited art. Accordingly, dependent claims 2, 4, 6, 7-9 also are allowable as non-obvious. Reconsideration of the rejections respectfully is requested.

Similarly, claims 12 and 14 depend from independent claim 10. Claim 10 is allowable over Yeo because as established above, Yeo fails to disclose "a client-side controller adapted to index for indexing at least one look-x point of the look-x data stream to a corresponding at least one point in said data flow by summarizing the look-x data stream and generating for display the at least one look-x point to the corresponding at least one point in said data flow" which is taught in claim 10 as amended. Nor does Ceccarelli teach this limitation.

Yeo and Ceccarelli thus fail to disclose all of the limitations of independent claim 10, and claim 10 is allowable as non-obvious over the cited art. Accordingly, dependent claims 12 and 14 are allowable as non-obvious. Reconsideration of the rejections respectfully is requested.


C. Conclusion

In light of the above remarks and amendments to the claims, it is respectfully submitted that all claims as amended in the subject patent application are allowable. A Notice of Allowance respectfully is requested. The Examiner is respectfully requested to telephone the undersigned if she can assist in any way in expediting issuance of the patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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